WHAT IS CLAIMED IS:

1. A nitride-based semiconductor element comprising:

a mask layer, having a recess portion on an upper surface of said mask layer, formed on a substantially flat upper surface of an underlayer to partially expose said upper surface of said underlayer;

a nitride-based semiconductor layer formed on said exposed part of said underlayer and said mask layer while forming a void on said recess portion of said mask layer; and

a nitride-based semiconductor element layer, formed on said nitride-based semiconductor layer, having an element region.

2. The nitride-based semiconductor element according to claim 1, wherein

said recess portion of said mask layer includes a dent provided on at least part of said upper surface of said mask layer.

3. The nitride-based semiconductor element according to claim 1, wherein

said recess portion of said mask layer includes a concavely curved upper surface of said mask layer.

4. The nitride-based semiconductor element according to claim 3, wherein

said mask layer has an overhanging shape, and

said upper surface of said overhanging mask layer is concavely curved.

5. The nitride-based semiconductor element according to claim 4, wherein

said overhanging mask layer includes:

a first insulator film formed on said underlayer, and

a second insulator film, formed on said first insulator film, having a smaller etching rate than said first insulator film.

6. The nitride-based semiconductor element according to claim 1, wherein

said underlayer includes a substrate, and

said mask layer is formed to be in contact with the upper surface of said substrate.

7. A nitride-based semiconductor element comprising:

a mask layer, having a recess portion on an upper surface of said mask layer, formed on projection portions of an underlayer having said projection portions on upper

surface on said underlayer to partially expose said upper surface of said underlayer;

a nitride-based semiconductor layer formed on said exposed part of said underlayer and said mask layer while forming a void on said recess portion of said mask layer; and

a nitride-based semiconductor element layer, formed on said nitride-based semiconductor layer, having an element region.

8. The nitride-based semiconductor element according to claim 7, wherein

said recess portion of said mask layer includes a dent provided on at least part of said upper surface of said mask layer.

9. The nitride-based semiconductor element according to claim 7, wherein

said recess portion of said mask layer includes a concavely curved upper surface of said mask layer.

10. The nitride-based semiconductor element according to claim 9, wherein

said mask layer has an overhanging shape, and

said upper surface of said overhanging mask layer is

concavely curved.

11. The nitride-based semiconductor element according to claim 7, wherein

said underlayer includes a substrate, and

said mask layer is formed to be in contact with said upper surface of said substrate.

12. A method of forming a nitride-based semiconductor comprising steps of:

forming a mask layer, having a recess portion on an upper surface of said mask layer, on a substantially flat upper surface of an underlayer to partially expose said upper surface of said underlayer; and

growing a nitride-based semiconductor layer on said exposed part of said underlayer and said mask layer.

13. The method of forming a nitride-based semiconductor according to claim 12, wherein

said step of forming said mask layer includes a step of forming said mask layer on a prescribed region of said underlayer and thereafter partially etching the upper surface of said mask layer thereby forming said recess portion on the upper surface of said mask layer.

14. The method of forming a nitride-based semiconductor according to claim 12, wherein

said step of forming said mask layer includes steps of:

forming a first mask material layer on part of a region of said underlayer formed with said mask layer,

forming a second mask material layer to cover said first mask material layer and said underlayer, and

etching said second mask material layer while leaving said first mask material layer thereby forming said mask layer consisting of said first mask material layer and said second mask material layer and having said recess portion on said upper surface.

15. The method of forming a nitride-based semiconductor according to claim 12, wherein

said underlayer includes a substrate, and

said step of forming said mask layer includes a step of forming said mask layer to be in contact with said upper surface of said substrate.

16. The method of forming a nitride-based semiconductor according to claim 12, further comprising a step of growing a nitride-based semiconductor element layer having an element region on said nitride-based

semiconductor layer.

17. A method of forming a nitride-based semiconductor comprising steps of:

forming a mask layer, having a recess portion on an upper surface of said mask layer, on projection portions of an underlayer having the projection portions on upper surface for partially exposing said upper surface of said underlayer; and

growing a nitride-based semiconductor layer on said exposed part of said underlayer and said mask layer.

18. The method of forming a nitride-based semiconductor according to claim 17, wherein

said underlayer includes a substrate, and

said step of forming said mask layer includes a step of forming said mask layer to be in contact with the upper surface of said substrate.

19. The method of forming a nitride-based semiconductor according to claim 17, further comprising a step of growing a nitride-based semiconductor element layer having an element region on said nitride-based semiconductor layer.

20. A method of forming a nitride-based semiconductor comprising steps of:

forming a mask layer having an overhanging shape on a substantially flat upper surface of an underlayer to expose part of said flat upper surface of said underlayer; and

growing a nitride-based semiconductor layer on said exposed part of said underlayer and said mask layer.

21. The method of forming a nitride-based semiconductor according to claim 20, wherein

said step of growing said nitride-based semiconductor layer includes a step of growing said nitride-based semiconductor layer from under said mask layer having an overhanging shape and applying force from under the overhang of said mask layer thereby curving the upper surface of said overhanging mask layer.

22. The method of forming a nitride-based semiconductor according to claim 20, wherein

said step of forming said mask layer includes steps of:

forming a first mask material layer on said underlayer while forming a second mask material layer having a smaller etching rate than said first mask

material layer on said first mask material layer, and

etching said first mask material layer and said second mask material layer thereby forming said overhanging mask layer having said first mask material layer and said second mask material layer.

23. The method of forming a nitride-based semiconductor according to claim 20, wherein

said underlayer includes a substrate, and

said step of forming said mask layer includes a step of forming said mask layer to be in contact with the upper surface of said substrate

24. The method of forming a nitride-based semiconductor according to claim 20, further comprising a step of growing a nitride-based semiconductor element layer having an element region on said nitride-based semiconductor layer.

25. A method of forming a nitride-based semiconductor comprising steps of:

forming a mask layer having an overhanging shape on projection portions of upper surface of an underlayer having said projection portions to expose part of said upper surface of said underlayer; and

growing a nitride-based semiconductor layer on said exposed part of said underlayer and said mask layer.

26. The method of forming a nitride-based semiconductor according to claim 25, wherein

said step of growing said nitride-based semiconductor layer includes a step of growing said nitride-based semiconductor layer from under said mask layer having an overhanging shape and applying force from under the overhang of said mask layer thereby curving the upper surface of said overhanging mask layer.

27. The method of forming a nitride-based semiconductor according to claim 25, wherein

said underlayer includes a substrate, and

said step of forming said mask layer includes a step of forming said mask layer to be in contact with the upper surface of said substrate.

28. The method of forming a nitride-based semiconductor according to claim 25, further comprising a step of growing a nitride-based semiconductor element layer having an element region on said nitride-based semiconductor layer.